

CLAIMS

I claim:

1. A method of treating a blood product which contains a nucleic acid-containing pathogen to be inactivated, said method comprising
 - a) adding psoralen to the blood product;
 - b) irradiating the psoralen and the blood product to form a mixture comprising said blood product, free psoralen, and low molecular weight psoralen photoproducts; and
 - c) contacting said mixture with a hypercrosslinked resin to remove at least substantially all of said free psoralen and said low molecular weight psoralen photoproducts.
2. The method of claim 0 wherein said psoralen comprises an aminopsoralen selected from the group consisting of 4'-primary amino-substituted psoralen and 5'-primary amino-substituted psoralen.
3. The method of claim 0 wherein said blood product comprises plasma.
4. The method of claim 0 wherein said hypercrosslinked resin is not pre-wetted prior to said act of contacting said mixture with said hypercrosslinked resin.
5. The method of claim 0 wherein said hypercrosslinked resin comprises a polyaromatic resin that is capable of adsorbing said free psoralen and said low molecular weight psoralen photoproducts.
6. The method of claim 5 wherein said psoralen comprises an aminopsoralen selected from the group consisting of 4'-primary amino-substituted psoralen and 5'-primary amino-substituted psoralen.
7. The method of claim 6 wherein said aminopsoralen comprises 4'-(4-amino-2-oxa)butyl-4,5',8-trimethylpsoralen.

8. A method of removing free psoralen from a biological fluid comprising blood or a blood product, said free psoralen having been exposed to light having a wavelength that causes psoralen to covalently bind to a nucleic acid, the method comprising contacting said biological fluid with a hypercrosslinked adsorbent resin that is capable of removing said free psoralen; and removing at least substantially all of said free psoralen from said biological fluid with said hypercrosslinked adsorbent resin.

9. The method of claim 8 wherein said resin is selected from the group consisting of: a polyaromatic resin having a mean surface area of about 1100 m²/gm, a mean pore diameter of about 46Å, and a mesh size of about 20-50µm; a polyaromatic resin having a mean surface area of about 725 m²/gm, a mean pore diameter of about 40Å, and a mesh size of about 20-60µm; and a functionalized polyaromatic resin having a mean surface area of about 800 m²/gm, a mean pore diameter of about 25Å, and a mesh size of about 20-50µm.

10. The method of claim 8 wherein said biological fluid comprises a plasma blood product.

11. The method of claim 8 wherein said biological fluid comprises a platelet-containing blood product.

12. The method of claim 11 wherein said biological fluid further comprises a synthetic medium containing phosphate.

13. The method of claim 8 wherein said resin is not pre-wetted prior to contacting said biological fluid with said resin.

14. The method of claim 8 wherein said psoralen comprises an aminopsoralen selected from the group consisting of 4'-primary amino-substituted psoralen and 5'-primary amino-substituted psoralen.

15. The method of claim 14 wherein said aminopsoralen comprises 4'-(4-amino-2-oxa)butyl-4,5',8-trimethylpsoralen.

16. The method of claim 8 wherein said hypercrosslinked resin comprises a hypercrosslinked polyaromatic resin.

17. The method of claim 16 wherein said biological fluid is selected from the group consisting of plasma and platelets.

18. The method of claim 16 wherein said psoralen comprises an aminopsoralen selected from the group consisting of 4'-primary amino-substituted psoralen and 5'-primary amino-substituted psoralen.

19. The method of claim 16 wherein said psoralen comprises a brominated psoralen.

20. The method of claim 16 wherein the biological fluid further comprises psoralen photo products, and wherein said resin additionally removes at least substantially all of said psoralen photo products.

21. A biological fluid formed by the method of claim ϕ .

22. A biological fluid formed by the method of claim 3.

23. A biological fluid formed by the method of claim 8.

24. A biological fluid formed by the method of claim 12.